



**DEPARTMENT OF THE ARMY  
WASHINGTON AQUEDUCT  
U.S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT  
5900 MACARTHUR BOULEVARD, N.W.  
WASHINGTON, D.C. 20016-2514**

September 28, 2012

Office of the General Manager

Ms. Mary M. Letzkus  
Senior Environmental Scientist  
NPDES Permitting Branch (Mail Stop 3WP31)  
US Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

Dear Ms. Letzkus:

Washington Aqueduct needs to make one discrete discharge from Georgetown sedimentation basin #2 (the larger of the two basins) in accordance with the conditions expressed below in order to remove sediment that accumulated during a period of time when the newly installed but not field-tested and accepted dredge cabling and winch system failed and had to be redesigned. That period turned out to be considerably longer than originally anticipated, and an extended delay in removing the excess sediment from this basin may affect our ability to successfully manage and maintain proper drinking water quality, to the potential detriment of the health of our customers. We ask for this bypass because there are no feasible alternatives to discharge to solve this excess sediment problem.

We therefore are requesting permission, to make one anticipated bypass in the form of river sediment residuals beginning as soon as the Potomac River reaches the discharge threshold elevation discussed in the next paragraph after the approval of this request. This discharge would use Outfalls 003 and 004. Assuming it can occur before October 30, 2012 it would be outside the defined spawning season windows as described in Part II, Section C, paragraph 12.

We are making this request in accordance with Part II, Section B, paragraph 3 of our NPDES Permit DC 0000019. The Federal Facilities Compliance Agreement that had been in effect to support the construction and start-up of the residuals collection and treatment facilities has expired. We are requesting the same flow conditions (i.e., 2.90 feet on the Little Falls gauge) and the same waiver on concentrations on Total Suspended Solids and the concentrations of the other listed pollutants in Part I, Section B.

To mitigate any potential negative effects of this discharge, Washington Aqueduct will use additional flushing water to dilute the sediment returned to the Potomac River, and will, as under the FFCA, extend the time taken for the discharge to a minimum of 36 hours.

The timing of this discharge has become critical because the Washington Aqueduct is in final endurance testing or has already received control of most of the residuals processing equipment. The sediment that has accumulated in Sedimentation Basin #2 at Georgetown exceeds the design capacity for it to be removed in the context of normal sediment removal operations. Even with all of our best efforts to complete the dredge installation within the specified schedule, when faced with an "immediate danger to life" situation caused by the sudden and catastrophic malfunction of the winch control systems and the snapping of a tensioned cable which then uncontrollably whipped around, we believed that the only

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reasonable and prudent thing to do was to lock-out the system and conduct an investigation of the cause. That resulted in the redesign of several safety mechanisms that would sense over-tension in the cable and over-current in the winch motors and shut down the system. None of this equipment is off the shelf and by design it is very complex. The complexity of it added several months to the acquisition and installation of replacement equipment. Our initial thought was that the dredging operation could "catch-up" with the residuals that had to be collected in the basin during the redesign and reinstallation time. The use of that basin (in conjunction with Basin #1) is necessary to provide the safety and operational flexibility needed to produce settled water for the McMillan Water Treatment Plant. The residuals processing facility is receiving sediment from the four Dalecarlia basins and the Dalecarlia Reservoir forebay in addition to those that come from Georgetown. We have sounded Georgetown Basin #2 and have estimated it would take nine months or more to "nibble away" at the residuals accumulated during the redesign and installation of the new cable control system while at the same time removing the residuals coming in on a daily basis. Those accumulated residuals are best removed more quickly for the overall benefit of water operations and the overall safety and quality of the drinking water, for the reasons discussed below. The only practical way to perform that removal is to flush Basin #2 clean and essentially "start over" so that we are able to systematically keep up with the daily deposition in accordance with the system design.

The bypass meets the standards required by Part II, Section B., and paragraph 3, subparagraph d. i. of NPDES Permit DC 0000019 because:

- a. As background, the residuals build-up to the needed bypass was unavoidable. The bypass is necessary to recover from a 12 month delay caused by the necessity to re-design, re-manufacture and re-install the cable system that moves the dredges. When the cabling system was initially tested in July 2011, a catastrophic failure occurred when two winches went into tension unexpectedly and uncontrollably causing a 3/8 inch cable to snap and whip around. Had someone been standing in the line of the whipping cable, he would have been seriously injured at best. We believed the only prudent action to take was to stop the installation, conduct a thorough investigation and consider a redesign incorporating additional safety interlocks so that this situation could not recur. It was not until July 2012 that the redesign was completed and installed and tested. Under the terms of the FFCA, the last permitted discharge at Georgetown was September 30, 2011. Without the dredges being able to safely operate, residuals cannot be sent to the processing facilities, dewatered, and disposed of.
- b. The bypass is necessary to ensure that a deterioration of finished water quality does not occur. Previous practice at the Georgetown sedimentation basins was to drain and clean each basin via discharges to the Potomac River on an interval of six months. The basin we are requesting the bypass permission for has been in service accumulating residuals for more than a year. Because of the very large size of this basin, we have not yet run out of capacity to store the residuals and allow the sedimentation process to continue, but we have very old material, the organic portion of which has become very dark and very odorous. This indicates a presence of decay products which certainly are beginning to have a negative effect on the settled water that leaves this basin and goes to the McMillan Water Treatment Plant for filtration and disinfection. The longer it stays at Georgetown, the more these decay reactions will occur and the more the water sent for further processing is affected. While the water being produced at the McMillan Water Treatment Plant currently meets all of the requirements of the Safe Drinking Water Act regulations the unexpected and unavoidable long-term retention of the residuals at Georgetown basin #2, adds potential uncertainty to that process. As a result, we feel obliged to act sooner rather than later, before the risk to water quality, and thus human health, rises too sharply.

c. There is no feasible alternative to discharge. While the residuals processing facility was designed and is operating to dewater and dispose of the dredged residuals it was designed from the standpoint that the basin would start empty, not full. It's now very full for the reasons described above. To establish a temporary dewatering facility at Georgetown to supplement the newly built residuals processing facility would be prohibitively expensive and the truck traffic generated in this residential neighborhood would be onerous. The longer the material builds up in the basin, the further behind we get.

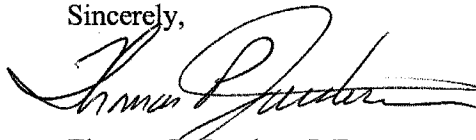
d. With delivery of this letter, the required notices will have been made. By the creation and delivery of this written request (including to the cc addressees below), we provide the documentation necessary for use to fully comply with Part II, Section B., paragraph 3, subparagraph c of NPDES Permit DC 0000019; and

e. Washington Aqueduct meets the requirements of Part III Section E of the permit. The Washington Aqueduct is in full compliance with Part III, Section E of NPDES Permit DC 0000019, both in the past, and with this bypass by continuing to refrain from discharging any residuals during the period of February 15 to June 30 since the current permit has been in effect and the accompanying FFCA had been in effect.

Therefore, Washington Aqueduct requests approval for this bypass in time to have conducted it by October 30, 2012.

If you have any questions or need additional information to assist you in reviewing our requested discharge dates, please contact us. I may be reached at 202-764-0031.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas P. Jacobus', with a stylized flourish at the end.

Thomas P. Jacobus, P.E.  
General Manager

CC: FWS; NMFS; NPS; DC DOE